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ABSTRACT

This brief report presents information on the extent to which families are engaged in literacy activities with their 3- to 5-year-olds who are not yet enrolled in kindergarten. It also presents information on signs of emerging literacy, such as whether children recognize letters, can write their own names, or read or pretend to read. The report examines changes in both home literacy activities that families engage in, and signs of children's emerging literacy between 1993 and 1999. The report then examines the association between home literacy activities and signs of emerging literacy in 1999. Data used in the report are from the 1993 and 1999 National Household Education Surveys. (Contains 14 references, 5 endnotes, and 3 tables of data.) (RS)

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Statistics in Brief March 2000

Home Literacy Activities and Signs of Children's Emerging Literacy, 1993 and 1999

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Children begin the process of learning to read long before they enter formal schooling (Sonnenschein, Brody, and Munsterman 1996; Teale and Sulzby 1989). Families, and parents in particular, play an important part in this process. For decades, research has shown that children whose parents read to them become better readers and do better in school (Snow, Burns, and Griffin, 1998; Saracho 1997; Moss and Fawcett 1995). But reading to children is not the only activity that helps children become readers and to do better in school. Activities such as telling stories and singing songs may also encourage the acquisition of literacy skills (National Education Goals Panel 1997; Sonnenschein, Brody, and Munsterman 1996; Moss and Fawcett 1995; Glazer 1989).

Why is it that home activities such as reading to children, telling them stories, and singing with them help them learn? Research suggests that reading and story telling stimulate the imagination, help to increase children's vocabularies, introduce them to components of stories (such as character, plot, action, and sequence), and provide them with information about the world around them (The National Education Goals Panel 1997; Moss and Fawcett 1995). Singing songs probably also encourages a love of language and the rhythms of language (Glazer 1989). It also encourages phonological awareness (that is, awareness of the sounds and parts of language), which can be an important predictor of later literacy learning (Bryant et al. 1990; Maclean, Bryant, and Bradley 1987). Moreover, activities such as these are usually very child-centered, are conducted in a relaxed atmosphere, and allow for a warm, positive interaction between children and their parents (Sonnenschein, Brody, and Munsterman 1996; Strickland and Taylor 1989). Research suggests that the quality of parent-child interactions is important for children's development of literacy (Saracho 1997).

Goal One of the National Education Goals recognizes the importance of family-child engagement in literacy activities to children's learning and readiness for school. The goal suggests that for all children in America to start school ready to learn, parents need to devote time each day to teaching them.

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This brief report presents information on the extent to which families are engaged in literacy activities with their 3- to 5-year-olds who are not yet enrolled in kindergarten. It also presents information on signs of emerging literacy, such as whether children recognize letters, can write their own names, or read or pretend to read. This information is shown for selected child, parent, and family characteristics. Some of these characteristics, such as low parent education, are often used to identify children as being at risk for school failure. The report examines changes in both home literacy activities that families engage in and signs of children's emerging literacy between 1993 and 1999. During this period, substantial research, policy, and media attention has been devoted to the importance of family involvement in children's learning.[1] The report then examines the association between home literacy activities and signs of emerging literacy in 1999.

The data used in this report are from the 1993 and 1999 National Household Education Surveys (NHES:1993 and NHES:1999). These data are based on reports of the parent most knowledgeable about the child, usually the child's mother. It is important to acknowledge that parents may overestimate both their involvement in home literacy activities and their children's skills because they recognize that such activities and skills are socially desirable. The tendency for respondents to give socially desirable responses is one source of nonsampling error in surveys. See the Survey Methodology and Data Reliability section of this report for information about nonsampling errors and for details about the NHES:1993 and NHES:1999.

Home Literacy Activities

Families' Engagement in Literacy Activities, 1999. Families have gotten the message about the importance of reading to their young children. Eighty-one percent of children ages 3 to 5 years in 1999 who were not yet enrolled in kindergarten were read to three or more times in the last week by a family member (table 1). Many families are also engaging in other literacy activities with their 3- to 5-year-old children. Fifty percent of children aged 3 to 5 years not yet in kindergarten were told a story three or more times in the last week by a family member. Sixty-four percent were taught letters, words, or numbers frequently by their families. Nearly half (49 percent) were taught songs or music three or more times in the last week, and more than a third (39 percent) did arts and crafts with their families three or more times in the last week. More than a third (36 percent) of preschool 3- to 5-year-olds visited the library in the last month with a family member. These percentages show that many families are actively involved in helping their young children learn. (See the Methodology and Data Reliability section of this report for information about how home literacy activities are defined in this report.)

Families' Engagement in Literacy Activities by Child, Parent, and Family Characteristics, 1999. The percentage of preschool-aged children who are read to, told stories, or engage in other literacy activities with their families varies by characteristics of the children, their parents, and their families. For example, 3-year-olds were more likely than 4-year-olds or 5-year-olds to have been taught songs or music three or more times in the last week by their families (57 percent of 3-year-olds compared to 43 percent of 4-year-olds and 38 percent of 5-year-olds). However, they were less likely than 4- and 5-year-olds to have visited the library with their families in the last month (33 percent, versus 39 and 41 percent, respectively).

There are also differences in families' engagement in literacy activities with their children by the children's race and ethnicity. Hispanic children and black, non-Hispanic children were less likely than white, non-Hispanic children to have been read to (61 percent and 71 percent versus 89 percent), told stories by (40 percent and 45 percent versus 53 percent), or done arts and crafts with (32 percent and 28 percent versus 44 percent) their families three or more times in the last week. There are no statistically significant differences, however, between black, non-Hispanic children and white, non-Hispanic children in the proportion who were taught letters, words, or numbers three or more times in the last week or who visited the library in the last month with their families. Hispanic children, though, are significantly less likely than either white, non-Hispanic or black,

Table 1.— Percentage of 3- to 5-year-old children not yet enrolled in kindergarten who have participated in home literacy activities with a family member three or more times in the past week, by selected child and family characteristics: 1993 and 1999

Characteristic	Children (thousands)		Read to[1,2]				Told a story[2]				Taught letters, words, or numbers[2]			
			1993		1999		1993		1999		1993		1999	
	1993	1999	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total	8,579	8,549	78	0.6	81	0.7	43	0.9	50	1.1	58	0.8	64	0.9
Age														
3 years old	3,889	3,827	79	1.0	81	1.2	46	1.3	52	1.6	57	1.3	65	1.3
4 years old	3,713	3,722	78	1.0	81	1.2	41	1.5	49	1.7	58	1.1	63	1.5
5 years old	976	1,001	76	2.1	79	2.5	36	2.7	44	3.1	58	2.8	64	2.9
Sex														
Male	4,453	4,363	77	1.0	80	1.1	43	1.2	49	1.4	58	1.0	64	1.4
Female	4,126	4,187	79	1.0	82	1.2	43	1.2	50	1.5	58	1.3	65	1.3
Race/ethnicity														
White, non-Hispanic	5,902	5,296	85	0.7	89	0.7	44	1.0	53	1.2	58	0.9	65	1.1
Black, non-Hispanic	1,271	1,258	66	2.3	71	2.7	39	2.7	45	2.7	63	2.7	68	2.6
Hispanic	1,026	1,421	58	2.4	61	2.1	38	2.2	40	2.3	54	1.9	55	2.2
Other	381	574	73	3.8	81	3.7	50	5.3	53	4.1	59	3.9	69	4.5
Mother's home language[3]														
English	7,805	7,599	81	0.7	84	0.8	44	0.9	52	1.1	58	0.8	66	1.0
Not English	603	683	42	3.0	48	2.9	36	2.8	31	2.8	52	2.8	45	2.9
Mother's highest education[3]														
Less than high school	1,036	952	60	2.7	61	3.3	37	3.2	36	3.0	56	2.7	60	3.3
High school diploma or equivalent	3,268	2,556	76	1.3	76	1.9	41	1.3	48	2.1	56	1.3	63	1.7
Vocational education or some college	2,624	2,586	83	1.4	85	1.2	45	1.7	52	1.5	60	1.5	67	1.4
College degree	912	1,455	90	1.6	91	1.4	48	2.4	55	2.5	56	2.2	65	2.2
Graduate/professional training or degree	560	734	90	2.1	93	1.8	50	3.1	54	3.2	60	2.7	62	3.3
Mother's employment status[3]														
Employed	4,486	5,058	79	1.0	81	1.0	44	1.0	50	1.5	57	1.2	65	1.2
Unemployed	594	452	71	3.4	70	3.7	43	2.9	47	4.4	66	3.6	63	4.1
Not in labor force	3,328	2,773	79	1.3	84	1.3	43	1.4	50	1.5	58	1.5	64	1.9
Family type														
Two parents	6,226	5,997	81	0.7	85	0.7	44	0.9	52	1.3	57	0.9	64	1.0
None or one parent	2,353	2,553	71	1.7	72	1.8	41	2.0	44	2.1	59	2.1	65	1.8
Poverty status														
Above poverty threshold	6,323	6,575	82	0.7	85	0.6	44	0.9	52	1.0	57	0.8	66	1.0
Below poverty threshold	2,256	1,975	68	1.6	69	2.4	39	1.8	42	2.8	59	2.0	58	2.4
Number of risk factors[3,4]														
None	4,175	3,758	87	0.8	91	0.7	43	1.2	54	1.4	56	1.0	64	1.3
One	1,645	1,856	82	1.6	83	1.7	47	2.1	57	2.0	62	1.9	69	2.2
Two or more	2,588	2,669	64	1.5	66	1.8	40	1.8	40	2.0	59	1.7	60	1.8

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Table 1.— Percentage of 3- to 5-year-old children not yet enrolled in kindergarten who have participated in home literacy activities with a family member three or more times in the past week, by selected child and family characteristics: 1993 and 1999 (continued)

Characteristic	Children (thousands)		Taught songs or music[2]				Did arts and crafts[2]				Visited a library[5]			
			1993		1999		1993		1999		1993		1999	
	1993	1999	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total	8,579	8,549	41	0.8	49	1.0	34	0.8	39	0.9	38	1.0	36	0.9
Age														
3 years old	3,889	3,827	45	1.3	57	1.4	34	1.3	41	1.8	34	1.3	33	1.3
4 years old	3,713	3,722	39	1.2	43	1.5	33	1.1	38	1.3	41	1.5	39	1.4
5 years old	976	1,001	33	2.5	38	3.0	33	2.3	35	2.6	38	2.7	41	2.9
Sex														
Male	4,453	4,363	38	1.3	47	1.4	31	1.0	38	1.3	38	1.5	35	1.2
Female	4,126	4,187	44	1.2	51	1.6	36	1.2	40	1.3	38	1.1	38	1.3
Race/ethnicity														
White, non-Hispanic	5,902	5,296	40	1.0	49	1.3	36	1.0	44	1.1	42	1.3	39	1.0
Black, non-Hispanic	1,271	1,258	49	3.1	51	2.7	28	2.4	28	2.8	29	2.6	35	2.9
Hispanic	1,026	1,421	39	2.0	45	2.1	25	2.1	32	2.0	26	1.6	25	1.8
Other	381	574	34	3.3	52	4.4	32	3.2	35	3.4	43	4.5	43	3.7
Mother's home language[3]														
English	7,805	7,599	42	0.9	49	1.0	34	0.8	40	1.0	39	1.1	39	0.9
Not English	603	683	33	2.5	43	2.9	23	2.4	25	2.6	26	2.6	19	2.1
Mother's highest education[3]														
Less than high school	1,036	952	40	2.8	44	3.5	25	2.2	29	3.1	22	2.7	18	2.3
High school diploma or equivalent	3,268	2,556	41	1.2	50	2.0	30	1.2	38	1.8	31	1.8	30	1.8
Vocational education or some college	2,624	2,586	42	1.3	51	1.7	38	1.6	40	1.7	44	2.0	40	1.8
College degree	912	1,455	39	2.5	48	2.3	37	2.3	43	1.9	55	2.2	50	2.3
Graduate/professional training or degree	569	734	44	3.6	46	3.2	42	3.0	47	3.4	59	3.4	48	2.9
Mother's employment status[3]														
Employed	4,486	5,058	41	1.1	48	1.3	33	1.1	37	1.2	39	1.2	36	1.0
Unemployed	594	452	49	4.4	49	4.9	34	3.9	39	4.5	37	3.7	29	3.8
Not in labor force	3,328	2,773	40	1.4	51	1.8	34	1.4	43	1.5	37	1.4	40	1.6
Family type														
Two parents	6,226	5,997	40	0.9	48	1.1	35	0.9	41	1.1	41	1.2	40	1.0
None or one parent	2,353	2,553	44	1.9	50	2.0	30	1.9	34	1.7	30	1.7	29	1.8
Poverty status														
Above poverty threshold	6,323	6,575	40	0.9	49	1.1	36	0.9	41	1.0	41	1.2	40	1.0
Below poverty threshold	2,256	1,975	45	2.1	49	2.4	27	1.9	34	2.5	28	2.0	24	2.0
Number of risk factors[3,4]														
None	4,175	3,758	39	1.1	48	1.4	37	1.1	45	1.4	46	1.5	44	1.2
One	1,645	1,856	43	2.0	50	2.1	36	1.8	38	2.3	35	1.6	37	1.9
Two or more	2,588	2,669	44	1.8	49	1.9	26	1.6	32	1.9	28	1.6	27	1.7

[1]In 1993, respondents were asked about reading frequency in one of two versions. The percentages presented in the table are for all of the respondents who answered three or more times on either version of the questions.

[2]Refers to activities done 3 or more times in the past week.

[3]Excludes 86 children in 1993 and 106 children in 1999 who did not have a mother (birth, adoptive, step, or foster) residing in their household and also did not have a female respondent on the telephone.

[4]Risk factors are defined as having a race-ethnicity other than white, non-Hispanic, mother's home language is other than English, mother's highest education is less than high school, family type is none or one parent in the household, and poverty status is below the poverty threshold.

[5]Refers to visiting a library at least once in the past month.

NOTE: s.e. is standard error. Because of rounding, numbers of children may not add to totals.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1993 and 1999.

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non-Hispanic children to have done these activities that frequently with their families. For example, 25 percent of Hispanic children visited the library in the past month with their families compared to 39 percent of white non-Hispanic children and 35 percent of black, non-Hispanic children.

A number of risk factors believed to have an impact on the development of literacy skills are shown in table 1. These include having a mother whose home language is other than English, having a mother with less than a high school education, living with fewer than two parents, living in a family with an income below the poverty threshold, and having a race/ethnicity other than white, non-Hispanic. Having a minority race/ethnicity is not a risk factor in the same sense as poverty or the other risk factors that can have a direct impact on children's development and learning. However, it remains the case that, on average, minorities in the United States have fewer opportunities and are faced with greater obstacles than are nonminorities. These realities of American life place minorities at educational risk.

Generally, the findings in this report show that children with one or more of these risk factors are less likely than other children to have frequently engaged in literacy activities with their families. This is especially true for reading to children, telling them stories, doing arts and crafts with them, and visiting the library with them. The differences between those at risk and those not at risk are smaller for teaching children letters, words or numbers, and teaching them songs or music. For example, 69 percent of children living in families with incomes below the poverty threshold were read to three or more times in the last week compared to 85 percent of children living above poverty. But children living in families with incomes below the poverty threshold were just as likely as children not living in poverty to have been taught songs or music three or more times in the last week (49 percent each). Likewise, 61 percent of children whose mothers had less than a high school education were read to three or more times in the last week compared to over 90 percent of children whose mothers' highest education was college graduate or graduate or professional school. And 44 percent of children whose mothers had less than a high school education were taught songs or music three or more times in the last week, as were 48 percent of children whose mothers were college graduates and 46 percent of children whose mothers had attended graduate or professional school.

With the exception of being taught songs or music, children with multiple risk factors are less likely than those with none or only one risk factor to engage in literacy activities frequently with their families. Twenty-seven percent of children with two or more risk factors had visited a library in the past month compared to 44 percent of children with no risk factors. Sixty-six percent of children with two or more risk factors were read to three or more times in the last week compared to 91 percent of children with no risk factors. Even though children with multiple risks are less likely than other children to be read to frequently, it is noteworthy that a majority of them are being read to frequently by their families. Thus, even families facing difficult circumstances are making an effort to help their children learn.

Changes in Families' Engagement in Literacy Activities, 1993 to 1999. In general, children in 1999 are more likely than those in 1993 to engage in literacy activities with family members. The one exception is that they are no more likely than their 1993 counterparts to have visited a library in the past month with a family member. They are more likely than children in 1993, however, to have been read to (81 percent versus 78 percent), told a story (50 percent versus 43 percent), and taught letters, words, or numbers (64 percent versus 58 percent) three or more times in the last week. They are also more likely than children in 1993 to have been taught songs or music (49 percent versus 41 percent) and to have done arts and crafts with a family member (39 percent versus 34 percent) three or more times in the last week.

The vast majority of statistically significant changes observed between 1993 and 1999 are for those children who would generally be considered less at risk for school failure. That is, most of the increases in literacy activities are for white, non-Hispanic children from two-parent households, with family incomes above the

poverty threshold, and with mothers who speak English at home. For example, the percentage of white, non-Hispanic children who were read to three or more times in the last week increased from 85 percent in 1993 to 89 percent in 1999. Similarly, the percentage who were taught letters, words, or numbers three or more times in the last week increased from 58 percent in 1993 to 65 percent in 1999. Among black, non-Hispanic children, the percentage who were read to frequently appears to have risen from 66 percent in 1993 to 71 percent in 1999. This difference, however, is not statistically significant. Similarly, the percentage who were taught letters, words, or numbers three or more times in the last week appears to have risen from 63 percent in 1993 to 68 percent in 1999. Again, however, this change is not statistically significant. There are also no statistically significant increases in families' engagement in literacy activities for children with two or more risk factors. For example, 64 percent of children in 1993 with two or more risk factors were read to three or more times in the last week as were 66 percent of such children in 1999.

Emerging Literacy Skills

Signs of Emerging Literacy, 1999. A substantial proportion of children aged 3 to 5 years who are not yet enrolled in kindergarten show signs of emerging literacy (table 2). Twenty-four percent already recognize all the letters of the alphabet, 57 percent can count to 20 or higher, 51 percent can write their own names, and 74 percent either read or pretend to read storybooks. Most children this age, of course, only pretend to read. Only 3 percent of 3- to 5-year-olds not yet in kindergarten actually read. Overall, 39 percent of 3- to 5-year-olds not yet in kindergarten are reported to have at least three of these four skills. (See the Methodology and Data Reliability section of this report for information about how emerging literacy skills are defined in this report.)

Signs of Emerging Literacy by Child, Parent, and Family Characteristics, 1999. Not surprisingly, older children are more likely than younger ones to show signs of emerging literacy. Fifteen percent of 3-year-olds not enrolled in kindergarten recognize all the letters of the alphabet compared to 44 percent of 5-year-olds not enrolled in kindergarten. Similarly, 24 percent of 3-year-olds can write their own names compared to 87 percent of 5-year-olds.

There are some differences in the percentage of 3- to 5-year-old children who show signs of emerging literacy by the children's race and ethnicity. Hispanic children are significantly less likely than non-Hispanic children to recognize all the letters of the alphabet. Fourteen percent of Hispanic children can do so compared with 25 percent of white, non-Hispanic, 25 percent of black, non-Hispanic, and 30 percent of children of some other race or ethnicity. Hispanic children are also much less likely than non-Hispanic children to be able to count to 20 or higher. Forty-one percent of Hispanic children can do so compared to 60 percent of white, non-Hispanic children, 60 percent of black, non-Hispanic children, and 59 percent of children of some other race or ethnicity. Black, non-Hispanic children are less likely than white, non-Hispanic children to read or to pretend to read (66 percent versus 79 percent), but they are as likely as white, non-Hispanic children to recognize all the letters of the alphabet and to be able to count to 20 or higher.

Young children living in families with incomes below the poverty threshold are less likely than other children to show signs of emerging literacy. Ten percent of 3- to 5-year-old children living in poverty recognize all the letters of the alphabet compared to 28 percent of nonpoor children. Similarly, 39 percent of children living in poverty can count to 20 or higher compared to 62 percent of nonpoor children. Nineteen percent of poor children show three or more signs of emerging literacy compared to 45 percent of nonpoor children. Likewise, children with two or more educational risk factors are less likely than other children to show signs of emerging literacy. Fifteen percent of children with two or more risk factors recognize all the letters of the alphabet compared to 29 percent of children with no risk factors. Similarly, 26 percent of children with two or more risk factors show at least three signs of emerging literacy compared to 47 percent of children with no risk factors.

Table 2.— Percentage of 3- to 5-year-old children not yet enrolled in kindergarten with specific reported school readiness skills, by selected child and family characteristics: 1993 and 1999

Characteristic	Children (thousands)		Recognizes all letters				Counts to 20 or higher				Writes name				Reads or pretends to read storybooks[2]				Has 3-4 skills			
	1993	1999	1993		1999		1993		1999		1993		1999		1993		1999		1993		1999	
			Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total	8,579	8,549	21	0.7	24	0.8	52	0.8	57	0.9	50	0.7	51	0.9	72	0.8	74	0.9	35	0.7	39	0.8
Age																						
3 years old	3,889	3,827	11	0.7	15	1.1	37	1.3	41	1.5	22	1.0	24	1.2	66	1.3	70	1.4	15	0.9	20	1.1
4 years old	3,713	3,722	28	1.3	28	1.3	62	1.3	67	1.6	70	1.2	70	1.2	75	1.3	76	1.3	49	1.4	50	1.5
5 years old	976	1,001	36	2.7	44	2.8	78	2.4	81	2.3	84	2.5	87	2.1	81	1.7	77	2.1	65	2.9	69	2.5
Sex																						
Male	4,453	4,363	19	1.0	21	1.0	49	1.2	54	1.5	47	1.1	47	1.4	68	1.0	70	1.3	32	1.1	35	1.2
Female	4,126	4,187	23	1.1	27	1.2	56	1.1	60	1.2	53	1.1	56	1.4	76	1.1	77	1.2	39	1.0	43	1.3
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Black, non-Hispanic	1,271	1,258	18	1.7	25	2.1	53	2.1	60	2.6	45	2.3	49	2.5	63	2.5	66	2.4	31	2.3	35	2.5
Hispanic	1,026	1,421	10	1.3	14	1.7	32	2.2	41	2.3	42	2.2	43	2.3	59	2.6	57	2.4	22	2.0	25	2.0
Other	381	574	22	3.2	30	3.6	49	4.0	59	3.8	52	4.2	57	4.2	70	4.0	79	3.0	36	4.2	48	4.2
Mother's home language[1]																						
English	7,805	7,599	22	0.8	25	0.8	55	0.8	60	1.0	51	0.8	53	1.0	73	0.8	76	0.9	37	0.7	41	0.9
Not English	603	683	9	1.9	8	1.6	24	2.9	25	2.8	38	2.8	34	3.4	52	3.5	45	3.3	17	2.6	14	2.7
Mother's highest education[1]																						
Less than high school	1,036	952	8	1.7	7	1.5	30	2.6	36	2.9	40	2.4	32	3.0	55	2.5	53	2.9	19	2.1	15	2.3
High school diploma or equivalent	3,268	2,556	17	1.1	17	1.3	48	1.5	48	1.7	48	1.3	49	1.8	70	2.1	69	2.0	30	1.2	31	1.6
Vocational education or some college	2,624	2,586	23	1.2	25	1.5	59	1.7	60	1.5	51	1.6	52	1.6	79	1.4	79	1.4	39	1.4	42	1.6
College degree	912	1,455	31	2.2	35	2.0	68	2.2	73	2.0	58	2.5	61	2.1	84	1.6	84	1.6	52	2.2	54	2.0
Graduate/professional training or degree	569	734	39	3.1	40	3.1	68	2.8	73	3.0	59	2.7	64	3.1	83	2.6	83	2.6	55	2.7	57	3.1
Mother's employment status[1]																						
Employed	4,486	5,058	23	0.8	24	0.9	57	1.2	59	1.2	52	1.1	53	1.2	75	1.0	75	1.1	39	1.0	40	1.1
Unemployed	594	452	17	3.1	15	3.1	41	2.9	53	4.8	46	3.4	39	4.6	67	3.4	64	4.2	29	2.8	32	4.2
Not in labor force	3,328	2,773	18	1.2	24	1.6	49	1.3	54	1.5	47	1.3	50	1.6	68	1.4	73	1.7	32	1.3	38	1.5
Family type																						
Two parents	6,226	5,997	22	0.8	26	1.0	54	1.0	58	1.1	51	0.7	53	1.3	74	0.9	75	1.0	37	0.8	41	1.0
None or one parent	2,353	2,553	18	1.4	19	1.6	49	1.4	54	1.6	47	1.7	48	1.6	65	1.5	69	1.9	31	1.5	33	1.7
Poverty status																						
Above poverty threshold	6,323	6,575	24	0.8	28	0.9	57	1.1	62	1.0	53	0.8	56	1.0	74	0.8	77	1.0	40	0.8	45	1.0
Below poverty threshold	2,256	1,975	12	1.2	10	1.5	41	1.5	39	2.5	41	1.9	37	2.2	64	2.0	63	2.5	23	1.4	19	1.8
Number of risk factors[1,2]																						
None	4,175	3,758	25	0.9	29	1.2	60	1.3	65	1.5	53	1.1	57	1.5	77	1.0	81	1.1	41	0.9	47	1.4
One	1,645	1,856	21	1.3	26	1.9	52	1.8	58	2.0	54	1.6	54	2.2	73	1.6	77	1.8	37	1.5	40	1.9
Two or more	2,588	2,669	14	1.1	15	1.3	42	1.3	46	1.9	42	1.6	41	1.6	62	1.9	62	1.9	25	1.4	26	1.5

[1]Excludes 86 cases in 1993 and 106 cases in 1999 who did not have a mother (birth, adoptive, step, or foster) residing in their household and also did not have a female respondent on the telephone.
[2]Risk factors are defined as having a race-ethnicity other than white, non-Hispanic, mother's home language is other than English, mother's highest education is less than high school, family type is none or one parent in the household, and poverty status is below the poverty threshold.
[3]Includes telling connected stories when pretending to read and reading actual words.
NOTE: s.e. is standard error. Because of rounding, numbers of children may not add to totals.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1993 and 1999.

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Changes in Signs of Emerging Literacy, 1993 to 1999. According to parental reports, 3- to 5-year-old children not yet in kindergarten in 1999 are more likely than their 1993 counterparts to be able to recognize all the letters of the alphabet (24 percent versus 21 percent), and to be able to count to 20 or higher (57 percent versus 52 percent). Children in 1999 are also more likely than children in 1993 to have three or four literacy skills (39 percent versus 35 percent). However, children in 1999 are no more likely than their 1993 counterparts to be able to write their own names, or to read or pretend to read.

As with families' engagement in literacy activities, the majority of statistically significant changes observed between 1993 and 1999 are for children who are less at risk for school failure. For example, among nonpoor children the percentage who recognized all the letters of the alphabet increased from 24 percent in 1993 to 28 percent in 1999. Similarly, the percentage of nonpoor children who could count to 20 or higher increased from 57 percent in 1993 to 62 percent in 1999. Overall, the percentage of nonpoor children who showed at least three of the four signs of emerging literacy increased from 40 percent in 1993 to 45 percent in 1999. The percentage of poor children exhibiting these emerging literacy signs did not increase at all between 1993 and 1999. Similarly, children in 1999 whose mothers' home language was English were more likely than their 1993 counterparts to recognize all the letters of the alphabet, to count to 20 or higher, to read or pretend to read, and to show at least three of the four literacy skills. On the other hand, children in 1999 whose mothers spoke a language other than English at home were no more likely than their 1993 counterparts to recognize all the letters of the alphabet, to count to 20, to read or pretend to read, or to show three or more emerging literacy skills.

Association Between Family Literacy Activities and Children's Emerging Literacy, 1999[2]

Families are helping their children prepare for school by engaging in literacy activities with them at home. In 1999, 26 percent of children who were read to three or more times in the last week by a family member recognized all letters of the alphabet compared to 14 percent of children read to less frequently (table 3). Children who were read to frequently are also more likely than those who were not to count to 20 or higher (60 percent versus 44 percent), to write their own names (54 percent versus 40 percent), and to read or pretend to read (77 percent versus 57 percent). Children who were read to frequently are nearly twice as likely as other children to show three or more skills associated with emerging literacy (42 percent versus 24 percent).

As other researchers have found, however, it is not only being read to that helps children learn. Children who were told stories three or more times in the last week are also more likely than those who were not to recognize all the letters of the alphabet (28 percent versus 20 percent), to count to 20 or higher (60 percent versus 54 percent), and to read or pretend to read (79 percent versus 68 percent). They are also more likely to be able to write their own names (54 percent versus 49 percent), though the difference is not very large.[3] Children who were told stories three or more times in the last week are also more likely than those who were not to show at least three signs of emerging literacy (44 percent versus 34 percent), though the differences between those who were told stories often and those who were not are not as dramatic as they are for children who were read to frequently and those who were not.

Children whose families taught them letters, words, or numbers three or more times in the last week or who visited the library with their families in the last month are also more likely than other children to show signs of emerging literacy. Forty-three percent of children whose families taught them letters, words, or numbers three or more times in the last week show at least three of the four signs of emerging literacy compared to 31 percent of children whose families taught them letters, words, or numbers less frequently or not at all. Similarly, 49 percent of children whose families took them to the library at least once in the past month show three or more signs of emerging literacy compared to 33 percent of children whose families did not take them to the library in the past month.

Table 3.— Percentage of 3- to 5-year-old children not yet enrolled in kindergarten with specific reported school readiness skills, by number of home literacy activities: 1999

Home activity	Children (thousands)	Recognizes all letters		Counts to 20 or higher		Writes name		Reads or pretends to read storybooks		Has 3-4 skills	
		Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.	Percent	s.e.
Total	8,549	24	0.8	57	0.9	51	0.9	74	0.9	39	0.8
Read to											
Fewer than 3 times	1,628	14	1.3	44	2.4	40	2.2	57	2.3	24	1.9
3 times or more	6,921	26	0.9	60	0.9	54	1.0	77	1.0	42	1.0
Told a story											
Fewer than 3 times	4,299	20	1.2	54	1.4	49	1.4	68	1.3	34	1.2
3 times or more	4,251	28	1.2	60	1.3	54	1.4	79	1.1	44	1.4
Taught letters, words, or numbers											
Fewer than 3 times	3,060	17	1.2	47	1.6	45	1.5	69	1.6	31	1.5
3 times or more	5,490	27	1.0	62	1.1	55	1.1	76	1.1	43	1.0
Taught songs or music											
Fewer than 3 times	4,392	24	1.3	57	1.5	55	1.4	71	1.3	40	1.4
3 times or more	4,158	23	1.2	56	1.5	47	1.4	76	1.2	37	1.3
Did arts and crafts											
Fewer than 3 times	5,206	21	1.0	56	1.4	50	1.2	70	1.1	37	1.2
3 times or more	3,343	28	1.5	59	1.6	53	1.5	80	1.3	42	1.6
Visited a library[1]											
No	5,439	19	0.9	51	1.2	45	1.2	70	1.1	33	1.0
Yes	3,110	32	1.4	67	1.5	63	1.4	79	1.3	49	1.5
Number of different types[2] of literacy activities											
Fewer than 3	2,803	16	1.3	48	1.8	45	1.8	64	1.6	30	1.6
3 or more	5,747	27	1.0	61	1.2	54	1.2	78	1.1	43	1.2

[1]Refers to visiting a library at least once in the past month.

[2]Types of literacy activities include reading to the child, telling a story, teaching letters, words or numbers, teaching songs or music, doing arts or crafts, each three or more times in the past week, and visiting a library in the past month.

NOTE: s.e. is standard error. Because of rounding, numbers of children may not add to totals.
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey, 1999.

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The results in table 3 suggest that teaching children songs or music is generally not associated with showing signs of emerging literacy. Only two associations are statistically significant. The first is the association between teaching songs or music and the children being able to write their names.[4] However, the association is opposite of what might be expected. The data suggest that children whose parents taught them songs or music three or more times in the last week are less likely to be able to write their own names than children who were taught songs or music less frequently (47 percent versus 55 percent). The second is the association between teaching children songs or music and the children reading or pretending to read. Here the association is significant and in the expected direction. Seventy-six percent of children whose families taught them songs or music three or more times in the last week read or pretend to read compared to 71 percent of other children. Recall that table 1 showed that younger children are more likely than older children to be taught songs or music. Similarly, table 2 showed that younger children are less likely than older children to show each of the signs of emerging literacy, though the difference was smallest for reading and pretending to read. Thus, the generally weak association between teaching songs or music and signs of emerging literacy may be due to the overrepresentation of younger children among those who are taught songs or music three or more times in the last week. That is, whereas younger children are more likely than older children to be taught songs or music frequently, they are less likely to show signs of emerging literacy. It is possible that teaching songs and music fosters emerging literacy skills, but at a gradual pace. Alternatively, such activities may foster skills that are not measured in this report, but that are, nevertheless, important to children's healthy development.

Doing arts and crafts with children frequently, like reading to them and telling them stories, is associated with acquiring literacy skills. For example, 28 percent of children whose families did arts and crafts with them three or more times in the last week recognize all the letters of the alphabet compared to 21 percent of children whose families did arts and crafts with them less frequently or not at all. Similarly, 42 percent of children whose families did arts and crafts with them three or more times in the last week show at least three signs of emerging literacy compared to 37 percent of children whose families did arts and crafts less frequently with them in the last week. Doing arts and crafts with children may stimulate literacy through the extended conversations that often occur during such activities (Snow 1991; Hall and Robinson 1995).

Children whose families engage in several different types of literacy activities with them may be more likely than other children to show multiple signs of emerging literacy. This hypothesis is, in fact, borne out. Forty-three percent of children whose families engaged in three or more types of literacy activities with them in the last week show three or more signs of emerging literacy compared to 30 percent of children whose families shared fewer activities with them.

Taken together, the results in table 3 are strong evidence children whose families are engaged in literacy activities with them are more likely than other children to show each of the signs of emerging literacy and to show three or more such signs. The one exception is children whose families taught them songs or music frequently. As noted earlier, the generally weak association does not mean that teaching songs and music is unimportant to children. The weak association may be due to the fact that younger children are more likely than older children to be taught songs and music and are also less likely to show signs of emerging literacy.

Survey Methodology and Data Reliability

The National Household Education Survey (NHES) is a telephone survey conducted for the U.S. Department of Education's National Center for Education Statistics (NCES). Data collections have taken place from January through early May in 1991 and January through April in 1993, 1995, 1996, and 1999. When appropriately weighted, each sample is nationally representative of all civilian, non-institutionalized persons in the 50 states and District of Columbia. The weighting method consisted of computing base weights, adjusting for nonresponse for the Parent Interview, and raking to national control totals. The samples were selected using random-digit-

dialing (RDD) methods, and the data were collected using computer-assisted telephone interviewing (CATI) technology.

Data from two administrations of the NHES were used in this report—the 1993 School Readiness Parent Interview and the 1999 Parent Interview. For each of these NHES components, two survey instruments were used to collect the data. The first instrument, a Screener administered to a member of the household age 18 or older, was used to determine whether any children of the appropriate age lived in the household, to collect information on each child, and to identify the appropriate parent or guardian to respond for the sampled child. If one or two eligible children resided in the household, interviews were conducted about each child. If more than two eligible children resided in the household, generally two were sampled as interview subjects. Each interview was conducted with the parent or guardian most knowledgeable about the care and education of each sampled child, that parent or guardian being the child's mother in 83 percent of the 1993 cases and 77 percent of the 1999 cases. This report is based on subsets of the total sample collected in each of the survey years, specifically, 3- to 5-year-olds not yet enrolled in kindergarten.

Response Rates

Screening interviews were completed with 63,844 households in 1993 and with 57,278 households in 1999. The response rate for the Screener varied somewhat between these two survey years: 82 percent in 1993 and 74 percent in 1999. The completion rate, or the percentage of eligible sampled children for whom interviews were completed, was 90 percent in both 1993 and 1999. The overall response rate (the product of the Screener response rate and interview completion rate) was 74 percent for the 1993 School Readiness component and 68 percent for the 1999 Parent Interview.

For both survey components, item nonresponse (the failure to complete some items in an otherwise completed interview) was very low. The item nonresponse rates for most variables in this report were less than 2 percent. Exceptions to this include nonresponse rates for NHES:1993 items measuring mothers' language (5 percent) and household income (7 percent); and for the NHES:1999, household income (11 percent). All items from the NHES:1993 School Readiness and NHES:1999 Parent Interview components with missing responses (i.e., don't know, refused, or not ascertained) were imputed using an imputation method called a hot-deck procedure (Kalton and Kasprzyk 1986). As a result, no missing values remain.[5]

Data Reliability

Estimates produced using data from the NHES are subject to two types of errors, sampling and nonsampling errors. Nonsampling errors are errors made in the collection and processing of data. Sampling errors occur because the data are collected from a sample, rather than a census of the population.

Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations and data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems like unit and item nonresponse, the differences in respondents' interpretations of the meaning of the questions, response differences related to the particular time the survey was conducted, the tendency for respondents to give socially desirable responses, and mistakes in data preparation.

In general, it is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. For each NHES survey, efforts were made to prevent such errors from occurring and to compensate for them where possible. For instance, during the survey design phase, cognitive interviews were conducted for the purpose of assessing respondent knowledge of the topics, comprehension of questions and terms, and the sensitivity of items. The design phase also entailed extensive staff testing of the CATI instrument and a pretest in which several hundred interviews were conducted.

An important nonsampling error for a telephone survey is failure to include persons who do not live in households with telephones. In October 1997, about 90.5 percent of 3- to 5-year-olds not

enrolled in kindergarten lived in households with telephones. Weighting adjustments using characteristics related to telephone coverage were used to reduce the bias in the estimates associated with children who do not live in households with telephones.

Sampling Errors

The sample of households with telephones selected for each NHES survey is just one of many possible samples that could have been selected from all households with telephones. Therefore, estimates produced from each NHES survey may differ from estimates that would have been produced from other samples. This type of variability is called sampling error because it arises from using a sample of households with telephones rather than all households with telephones.

The standard error is a measure of the variability due to sampling when estimating a statistic; standard errors for estimates presented in this report were computed using a jackknife replication method. Standard errors can be used as a measure of the precision expected from a particular sample. The probability that a complete census count would differ from the sample estimate by less than 1 standard error is about 68 percent. The chance that the difference would be less than 1.65 standard errors is about 90 percent; and that the difference would be less than 1.96 standard errors, about 95 percent.

Standard errors for all of the estimates are presented in the tables. These standard errors can be used to produce confidence intervals. For example, an estimated 81 percent of parents reported in 1999 that they read to their children three or more times in the past week. This figure has an estimated standard error of 0.7. Therefore, the estimated 95 percent confidence interval for this statistic is approximately 79 to 82 percent. That is, in 95 out of 100 samples from the same population, the estimated participation rate should fall between 79 and 82 percent.

Statistical Tests

The tests of significance used in this analysis are based on Student's *t* statistics. As the number of comparisons at the same significance level increases, it becomes more likely that at least one of the estimated differences will be significant merely by chance, that is, will be erroneously identified as different from zero. Even when there is no statistical difference between the means or percentages being compared, there is a 5 percent chance of getting a significant *t* value of 1.96 from sampling error alone. As the number of comparisons increases, the chance of making this type of error also increases.

In order to correct significance tests for multiple comparisons, a Bonferroni adjustment was used. This method adjusts the significance level for the total number of comparisons made with a particular classification variable. All the differences cited in this report are significant at the 0.05 level of significance after a Bonferroni adjustment.

Definitions of Variables

Home literacy activities. This report uses six items to measure home literacy activities. The items were derived from the following questions contained in the NHES:1999 Parent Interview.

How many times have you or someone in your family read to (CHILD) in the past week? Would you say...

Not at all
Once or twice
3 or more times, or
Every day

In the past week, has anyone in your family done the following things with (CHILD)?

[IF YES: Would you say one or two times, or three or more?]

a. *Told (him/her) a story?*
b. *Taught (him/her) letters, words, or numbers?*
c. *Taught (CHILD) songs or music?*
d. *Worked on arts and crafts with (him/her)?*

In the past month, that is, since (MONTH) (DAY), has anyone in your family done the following things with (CHILD)? [possible responses are 1. yes, 2. no.]

a. *Visited a library?*

For the first five activities, families were said to have frequently engaged in these activities if they had participated in them three or more times in the past week. Families were said to have visited a library if they reported that they had visited a library in the past month.

The 1993 questions were the same except that parents in 1993 were asked about reading frequency in one of two versions. These two versions were combined for this report.

The number of literacy of literacy activities engaged in was created by creating a variable that was initialized to 0 and then increased by 1 each time a child's family was said to engage frequently in the different literacy activities. This counter variable was then dichotomized to fewer than 3 or 3 or more activities engaged in.

Signs of emerging literacy. This report uses four measures to indicate signs of emerging literacy. They were derived from the following NHES: 1999 questions.

These next questions are about things that different children do at different ages. These things may or may not be true for (CHILD).

Can (he/she) recognize...

All of the letters of the alphabet

Most of them

Some of them, or

None of them?

How high can (CHILD) count? Would you say...

Not at all

Up to five

Up to ten

Up to twenty

Up to fifty, or

Up to 100 or more?

Can (CHILD) write (his/her) first name, even if some of the letters are backwards?

Yes

No

The above items were used individually. Parents had to report that their child recognized all the letters of the alphabet, could count up to 20 or higher, and could write their own first name to receive credit for showing these signs of emerging literacy.

The variable reading or pretend to read was constructed from the following questions:

PE5. Is (CHILD) able to read story books on (his/her) own now?

Yes (Go to PE6)

No (Go to PE7)

PE6. Does (CHILD) actually read the words written in the book, or does (he/she) look at the book and pretend to read?

Reads the written words (Go to next section)

Pretends to read (go to PE8)

Does both (Go to next section)

PE7. [Although (CHILD) doesn't yet read story books on (his/her) own,] Does (he/she) ever look at a book with pictures and pretend to read?

Yes (Go to PE8)

No (Go to next section)

PE8. When (he/she) pretends to read a book, does it sound like a connected story, or does (he/she) tell what's in each picture without much connection between them?

Sounds like a connected story

Tells what's in each picture

Does both

Children are said to read or pretend to read if any one of the following statements are true:

Child is able to read story books on his her own now (PE5=yes) AND child actually reads the words or both reads the words and pretends to read the words (PE6=reads the written words OR PE6=does both).

or,

Child is able to read story books on his or her own now (PE5=yes) AND child only pretends to read (PE6=pretends to read) AND when child pretends to read a book, it sounds like a connected story (PE8=sounds like a connected story OR PE8=does both)

or,

Child is not able to ready story books on his or her own now (PE5=no) AND when the child pretends to read a book, it sounds like a connected story (PE8=sounds like connected story OR PE8=does both).

The number of emerging literacy skills was created by creating a variable that was initialized to 0 and then increased by 1 each time a child was said to have a particular skill. This counter variable was then dichotomized to fewer than 3 skills or 3 or 4 skills.

Race/ethnicity. Two NHES questions concerning children's race and ethnic backgrounds were combined to identify children's race-ethnicity. Children were classified as being white, non-Hispanic, black, non-Hispanic, Hispanic, or belonging to another non-Hispanic racial/ethnic group.

Mother's home language. Children were identified as having a mother (or guardian) whose home language was not English if the first language their mother learned to speak was not English and if their mother did not speak English primarily at home. If a child did not have a mother (birth, adoptive, step, or foster) residing in the household and if the respondent on the telephone was not a female, the child was not included in any analyses involving mother's home language.

Mother's highest education. Children were identified as having a mother (or guardian) with a low maternal education if the highest grade or year of school their mother completed was less than 12th grade and if their mother did not earn a GED. If a child did not have a mother (birth, adoptive, step, or foster) residing in the household and if the respondent on the telephone was not a female, the child was not included in any analyses involving mother's highest education.

Family type. Children were classified as living in a family with less than two parents if they lived in a household with only one parent or a household with nonparent guardians or no parents. Parents include birth, adoptive, step-, or foster parents. Thus, for example, children living in a stepfamily are counted as living with two parents.

Poverty. The poverty measures used in this report were developed by combining information about household composition and household income. In both 1993 and 1999, household income was collected in increments of $5,000 up to $40,000, the categories relevant to the measure of poverty. The NHES:99 also collected exact household income for households with incomes of $35,000 or less. Whether respondents were asked this exact household income question also depended upon their household size. Exact income was not asked in 1993. To keep the measurement of poverty in the two years comparable, the NHES:99 information on exact income was not used in this report. These poverty measures are approximations of poverty. The definitions of poverty differ slightly because the poverty thresholds used to determine poverty change somewhat from year to year. The definitions of poverty used in this report for each year are as follows:

In 1993, a household was considered poor if

- The number of household members is 3 or less and household income is $10,000 or less;
- The number of household members is 4 or 5 and household income is $15,000 or less;
- The number of household members if 6 or 7 and household income is $20,000 or less;
- The number of household members is 8 and household income is $25,000 or less; or
- The number of household members is 9 or more and household income is $30,000 or less.

This measure of poverty results in 26 percent of 3- to 5-year-olds not yet in kindergarten being classified as in poverty. This percentage is identical to the traditional measure of poverty status for related children under 6 in 1993 (Federal Interagency Forum on Child and Family Statistics 1999).

In 1999, a household was considered poor if

- The number of household members is 3 or less and household income is $10,000 or less;
- The number of household members is 4 and household income is $15,000 or less;
- The number of household members is 5 or 6 and household income is $20,000 or less;
- The number of household members if 7 or 8 and household income is $25,000 or less; or
- The number of household member is 9 or more and household income is $30,000 or less.

This measure of poverty results in 23 percent of 3- to 5-year-olds not yet in kindergarten being classified as in poverty. This percentage is similar to the traditional measure of poverty status for related children under 6 in 1997 obtained from the March 1998 Current Population Survey (CPS). According to the March 1998 CPS, an estimated 22 percent of related children under 6 were living in poverty in the previous year (Federal Interagency Forum on Child and Family Statistics 1999).

Number of risk factors. Risk factors are defined as having a race/ethnicity other than white, non-Hispanic, a mother whose home language is other than English, a mother with less than a high school education, living with fewer than two parents, and living in a family with an income below the poverty threshold. A count variable was created based on these five variables. The count variable was initialized at 0 and increased by 1 each time one of these criterion was met. If a child did not have a mother (birth, adoptive, step, or foster) residing in the household and if the respondent on the telephone was not a female, the child was not included in any analyses involving the number of risk factors.

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Endnotes

[1] For example, the National Education Goals Panel began releasing annual reports in 1990. Every year with the release of these reports, media attention is devoted to the importance of families being active participants in their children's learning and of their reading to their young children. In addition, numerous programs devoted to family literacy, including the U.S. Department of Education's Even Start program, were initiated in the late 1980s and early 1990s (Saracho, 1997).

[2] The relationships between activities and skills discussed in this section were also found to be significant in the 1993 data, except where noted.

[3] This difference was not statistically significant in the 1993 data.

[4] This difference was not statistically significant in the 1993 data.

[5] For more information on the imputation procedures used in the NHES:1993 and NHES:1999, see the following NCES Working Papers: *Unit and Item Response, Weighting, and Imputation Procedures in the 1993 National Household Education Survey* (Brick et al. 1997) and *The NHES:1999 Survey Methodology* (Nolin et al. forthcoming).

References

Bryant, P.E., Maclean, M., Bradley, L., and Crossland, J. 1990. Rhyme and Alliteration, Phoneme Detection, and Learning to Read. *Developmental Psychology* 26: 429-438.

Federal Interagency Forum on Child and Family Statistics. 1999. *America's Children: Key National Indicators of Well-Being, 1999.* Federal Interagency Forum on Child and Family Statistics. Washington, DC: U.S. Government Printing Office.

Hall, N., and Robinson, A. 1995. *Exploring Writing and Play in the Early Years.* London: Fulton

Glazer, S.M. 1989. Oral Language and Literacy. In D.S. Strickland and L.M. Morrow, eds. *Emerging Literacy: Young Children Learn to Read and Write.* Newark, Delaware: International Reading Association, pp. 16-26.

Kalton, G., and Kasprzyk, D. 1986. The Treatment of Missing Survey Data. *Survey Methodology* 12: 1-16.

Maclean, M., Bryant, P., and Bradley, L. 1987. Rhymes, Nursery Rhymes, and Reading in Early Childhood. *Merrill-Palmer Quarterly* 33: 255-81.

Moss, B., and Fawcett, G. 1995. Bringing the Curriculum of the World of the Home to the School. *Reading & Writing Quarterly: Overcoming Learning Difficulties* 11: 247-256.

The National Education Goals Panel. 1997. *Special Early Childhood Report, 1997.* Washington, DC: U.S. Government Printing Office.

Saracho, O.N. 1997. Perspectives on Family Literacy. *Early Child Development and Care*, Vols. 127-128: 3-11.

Snow, C. 1991. The Theoretical Basis for Relationships Between Language and Literacy in Development. *Journal of Research in Childhood Education* 6: 5-10.

Snow, C.E., Burns, M.S., and Griffin, P., eds. 1998. *Preventing Reading Difficulties in Young Children.* Washington, DC: National Academy Press.

Sonnenschein, S., Brody, G., and Munsterman, K. 1996. The Influence of Family Beliefs and Practices on Children's Early Reading Development. In L. Baker, P. Afferbach, and D. Reinking, eds. *Developing Engaged Readers in School and Home Communities.* Mahwah, NJ: Lawrence Erlbaum Associates, Publishers, pp. 3-20.

Strickland, D.S., and Taylor, D. 1989. Family Storybook Reading: Implications for Children, Families and Curriculum. In D.S. Strickland and L.M. Morrow, eds. *Emerging Literacy: Young Children Learn to Read and Write.* Newark, Delaware: International Reading Association, pp. 27-34.

Teale, W.H., and Sulzby, E. 1989. Emergent Literacy: New Perspectives. In D.S. Strickland and L.M. Morrow, eds. *Emerging Literacy: Young Children Learn to Read and Write.* Newark, Delaware: International Reading Association, pp. 1-9.

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